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REDEVELOPING OPERATING FACILITIES

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During the past few years, a number of old industrial facilities have been successfully redeveloped into new and beneficial uses. In general, these facilities have fallen into two categories: 1) inactive facilities that have sufficient economic potential to be attractive to the private sector; and 2) inactive facilities that require governmental incentives or public sector moneys to initiate the redevelopment activities. However, there is a third category of properties that are less recognized but may be the most economically significant. The category includes active industrial facilities where a portion of the property has become unavailable due to soil and/or groundwater remediation activities. Recovery of property in the third category, for more economically valuable uses, is a major potential opportunity for many companies. Moreover, the redevelopment activities can sometimes accelerate or enhance the environmental remediation of the property.

Following an evaluation of ongoing soil bioremediation activities at a treated wood products facility in Joplin, Missouri, International Paper proposed to the Missouri Department of Natural Resources ("MDNR") to accelerate closure and redevelop the four soil treatment cells at the facility. The treatment cells contained over 80,000 cubic yards of soil and covered an area of approximately 10 acres. The treatment cells were located on a 60-acre portion of the plant site (about half of the available land) and were situated such that this portion of the plant site could not be effectively utilized.

The proposed brownfield project consisted of capping the treatment cells in lieu of continuing to treat the soil over the next six years as stipulated in the existing closure plan. The treatment cells would then be converted into pole storage or new warehouse space. In addition to providing a significant new source of revenue to the facility, the plan addressed pole storage issues, long-term storage of the contaminated soil and reduced potential human contact to the soil during remediation.

Under the previous treatment schedule, soil bioremediation activities were stipulated to continue through February 28, 2005, and the final cover certification would occur about September 1, 2006. Remediation of the treatment cell soil under the previous schedule would take a total of 21 years from initial soil excavation. During the 21-year period, the city of Joplin, the state of Missouri, or International Paper would not realize any economic benefit from the treatment cell area. Because of increasing economic activity in the Joplin area and the demand for commercial/industrial land, International Paper believed that there was a substantial opportunity to produce economic benefit by redeveloping the treatment cells.

This article includes detailed information regarding the beneficial uses that International Paper envisions for the treatment cells, including their positive economic and environmental impacts on the local community. A brief discussion of the technical and regulatory rationale to support redevelopment is also presented. In conclusion, the paper discusses the process used to accomplish redevelopment within the framework of the existing regulations that govern the

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remediation and closure of the treatment cells.

Site Background

The Joplin facility is located in southwestern Missouri, in Joplin's Southern Industrial Park. The site covers approximately 134 acres. From the early 1900s until approximately 1950, underground lead and zinc mining was conducted throughout the Joplin area and in the immediate vicinity of the site. Abandoned underground mine workings are present beneath the site including drifts, rooms, and shafts to depths exceeding 100 feet.

Property owners prior to International Paper constructed a wood-treating facility on the property in 1937. Chemicals used in the wood treatment process historically included creosote and a diesel and pentachlorophenol ("PCP") mixture that was added during the 1950s. Onsite recovery basins were used for liquid creosote and PCP recovery. The unlined basins were taken out of service by the end of 1985. Sludge from the former recovery basins was removed, processed to recover preservative chemicals and incinerated offsite in 1986. The remaining underlying soil was excavated and placed into two common stockpiles and then distributed into four treatment cells on the Joplin facility prior to 1990. The four treatment cells were constructed in the southern portion of the Joplin facility in the locations of the former onsite recovery basins. Construction of the treatment cells, including roofs, compacted clay layer, high-density polyethylene ("HDPE") liner, and leachate collection systems was initiated in mid-1993 and completed in 1994. With a total area of 514,000 square feet (approximately 10 acres), the treatment cells (designated as landfarms 1, 4, 5 and 7) encompass 35,000, 86,000, 111,000 and 282,000 square feet, respectively. The treatment cells have metal-frame roofs that are approximately 20 feet high, with support posts on 30-foot centers.

The areas in the immediate vicinity of the facility have experienced substantial retail and industrial growth over the last decade. A major rail corridor (Kansas City Southern Railroad) passes immediately south of the facility, and a rail spur enters the facility on the southwest corner adjacent to the four treatment cells. The city of Joplin is located on a major east/west (Interstate 44) and north/south (U.S. Highway 71) highway corridor.

Economic Benefits of Accelerated Development

An analysis determined that the highest-value beneficial use of the treatment cells was industrial redevelopment. International Paper selected a combination of light industrial and warehouse uses for the property. Review of the economic potential of the redevelopment demonstrated numerous potential benefits to the city of Joplin, the state of Missouri, and International Paper. Benefits included increased economic development for the local and state economies and enhanced protection of human health and the environment.

The industrial redevelopment of the largest treatment cell (landfarm 7) is approximately a $2 million dollar project and will provide up to 250,000 square feet of prime light industrial or warehouse space. There is currently a high demand for this type of industrial space in the Joplin area, and there are numerous businesses in the area that could benefit from utilization of it.

The next largest treatment cell (landfarm 5) will be used for treated pole storage for the Joplin facility. Because of its large size (111,000 square feet of covered area) and its location adjacent to the current pole storage area, this redevelopment will enable the Joplin facility to store its treated poles under a roof. This will increase the quality of the poles and eliminate contact of drippage from the poles with storm water. The other treatment cells (landfarms 1 and 4) will be dismantled and the soil will be moved to landfarms 5 and 7 for use as fill needed to prepare the

warehouse and pole storage facilities.

The number of jobs created by and the total impact on the local economy from industrial redevelopment depends on the final use selected. Based on similarly sized industrial facilities in the southern Midwest described in Oklahoma Department of Commerce's *New & Expanded Manufacturers and Processors Report 1990-1996* (1996), approximately 75 to 400 jobs may be created for every 100,000 square feet of industrial space that is developed. According to the Missouri State Census Data Center report, *Economic Trends in the State of Missouri* (1996), wages in Missouri for non-supervisory workers in the manufacturing and minimum wage sector average $26,000 per year. Thus, the redevelopment of the largest landfarm (landfarm 7) to industrial space may provide between $4.7 million and $26 million of direct wage benefits to the community annually. In addition, the other direct benefits to the community include taxes paid by the new facilities, goods and services purchased by the facilities, and ultimately the goods, services and profits provided by the facilities. The community also receives indirect benefits, including the wages paid to the people providing secondary services to the facility, such as local restaurants and retail establishments.

Regulatory Negotiations and Approval

International Paper was conducting pre-closure activities at the Joplin facility in accordance with the consent decree and the closure plan. The closure plan was prepared in compliance with the Part I post-closure permit and Resource Conservation and Recovery Act ("RCRA") Part B permit issued by MDNR in August 1994 and modified on July 31, 1995. The soil bioremediation system had been in full-scale routine operation since January 1996.

The modification of the treatment process required a major amendment to International Paper's RCRA Part B permit. Not only did the permit need to address the change in the operation of the bioremediation, but also needed to enable modifications to clean-up goals, monitoring program, and the operation of the biotreatment cells. All of these changes were handled as a major modification to the permit. The negotiations took approximately 18 months to complete and involved developing specific technical and regulatory reports to support the modification.

The primary technical issues considered by the regulators are adequate protection of human health and the environment. The treatment cells contained soil affected by wood treating chemicals that pose minimal risks to the facility workers who must perform monitoring and maintenance activities. Although the risks were minimal, accelerated capping of the treatment cells (which effectively entombs the affected soil) enhances the facility's protection of human health and the environment by preventing potential exposure to affected soil. Concentrations of chemicals currently in the treatment cell soil will continue to decrease because aerobic and anaerobic degradation is expected to continue after redevelopment. As the contaminant concentrations are reduced, the potential risk posed by the treatment cells to surrounding human populations also decreases. In addition, the redevelopment assures the long-term care and maintenance of the soils. MDNR approved the modification and issued a new RCRA Rate B permit in the summer of 2000. The construction is due to begin late in 2000 and continue into 2001.

Significant Local Support

In addition to the positive technical and economic reasons to go ahead with the project, the redevelopment has considerable local support. The redevelopment was endorsed by the City of Joplin. In a letter from the City of Joplin to International Paper (1998), Harold McCoy, Director of Public Works, stated the following:

> The City of Joplin commends International Paper for its continuing efforts to

> address its environmental cleanup project . . .[and] is supportive of re-use of brown field projects, and when the existing treatment facilities underneath your shelters can be capped with concrete and used for further purposes such as warehousing or manufacturing, the City of Joplin would be very supportive.
>
> The City of Joplin would support leasing the converted structures for warehousing or manufacturing and would assist in promoting these uses through our economic development program. . .

This local support was instrumental in achieving regulatory backing for the project. Without that support, it would have been much more difficult to obtain regulatory approval.

Conclusion

Brownfield redevelopment within current operating facilities provides a significant opportunity to increase the potential economic value of the facility, contribute significantly to the economic vitality of the local community and enable the facility to address environmental issues associated with the contaminated property. Furthermore, these projects can take place under a highly regulated environment. With proper planning, a solid technical and economic basis, and good community support, these projects are not only possible but may be the way of the future.